

**Abstract**

An apparatus for routing electrical signals is a layered structure having at least one signal trace disposed on a first side of an electrically insulating layer with a via electrically connected to the trace. The via also has a conductive stub trace electrically connected thereto. A generally planar electrically conductive reference layer is on a second side of the electrically insulating layer and the stub trace on the first side defines an area on the second side where the electrically conductive layer is absent. Removing a portion of the conductive reference layer increases the impedance of the stub trace without changing the impedance of the signal trace thereby improving an impedance match to another electrical element to which the apparatus is connected.

A method for manufacturing a layered structure for routing electrical signals comprising the steps of providing a layout for the layered structure having an insulating layer with at least one signal trace, a via, and a stub trace on a first side of the insulating layer, and a generally planar electrically conductive layer disposed on a second side of the insulating layer. Identify the stub trace and define a beneficial portion on the second side based upon a layout of the stub trace where the electrically conductive layer on the second side is to be absent. Modify the layout according to the step of defining and manufacture the layered structure according to the modified layout.